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[54] **ERGONOMIC KEYBOARD AND OPERATOR'S CHAIR**

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[56] **References Cited**

U.S. PATENT DOCUMENTS

2,473,037	6/1949	Morgan	297/217
4,271,404	6/1981	Tanaka	340/365 R
4,378,553	3/1983	McCall	340/365 R
4,438,975	3/1984	Williams	297/412
4,661,005	4/1987	Lahr	400/489
4,774,514	9/1988	Hilderbrandt et al.	340/971
4,917,516	4/1990	Retter	400/489
5,017,030	5/1991	Crews	400/485
5,022,706	6/1991	Bryan	297/162
5,056,743	10/1991	Zwar	248/118
5,120,938	6/1992	Rollason	235/145 R
5,122,786	6/1992	Rader	340/711
5,137,384	8/1992	Spencer et al.	400/489
5,169,210	12/1992	Fricaro	297/188
5,178,477	1/1973	Gambaro	400/489
5,195,746	3/1993	Boyd et al.	273/148

OTHER PUBLICATIONS

Kinesis Ergonomic Keyboard advertising brochure.

"Apple Keyboard Aimed at Curbing RSI Faces Controversy" Artile Arom-Minneapolis Star & Tribune--Jan. 7, 1993.

"What's New For Apple Uses ? Plenty of Software, Peripheral Products" Atbile from-Inventor's Daily--Jan. 12, 1993.

Comfort Keyboard System/HealthCare Keyboard Co., Inc. "First Ever Adjustable Computer Keyboard Promises Revolution".

Playthings Dec., 1990.

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[57] **ABSTRACT**

A combination ergonomic chair and bifurcated QWERTY apparatus integrally defined in the armrests of the chair. The combination apparatus includes a pair of adjustable arms for selectively orienting the armrests with respect to the operator. A standard QWERTY keyboard is bifurcated such that each half of the keyboard is defined on each of separate respective armrests. Each keyboard unit is attached to the armrests via a ball-in-socket arrangement and includes half of a QWERTY keyboard on one side, and a ten key numerical pad on the opposite side. A unique arrangement reduces stress, fatigue and injury associated with data entry work by facilitating proper postures to reduce upper extremity cumulative trauma. Each keyboard unit has a curve surface for provided palmar support to the hand while accessing the keypad. The chair and keyboard apparatus also includes a pair of rotary encoders integrally defined in the keyboard support structure to simulate a mouse. The backrest of the chair includes an elbow switch which intermittently disables the keyboard units which requires the operator to extend the elbows rearward to access the switch and reset the keyboard thus causing the operator to stretch periodically. The keyboard support structure is adaptable to most any standard ergonomic chair.

20 Claims, 3 Drawing Sheets